Patent claims

1. A method for the production of effervescent granules, in which at least one acidic effervescent component and at least one CO^2-eliminating alkaline effervescent component and optionally a granulating liquid are loaded as reactive constituents into an evacuatable container and react with one another in a vacuum with stirring, the container being evacuated to a first vacuum after loading with the reactive constituents, whereupon - after reaction-related evolution of gas and pressure increase up to a second vacuum value - the effervescent granules formed are dried in a vacuum,
wherein the reaction is carried out in a vacuum range of from 200 to 900 mbar and the evacuation of the container to the first vacuum value after gas evolution is complete is repeated, optionally repeated several times, and the reaction taking place without intermediate drying in cycles is then stopped by drying the resulting effervescent granules in a vacuum.

2. The method as claimed in claim 1, wherein a value in the range of from 200 to 700 mbar, in particular from 300 to 600 mbar, is specified as the first vacuum value.

3. The method as claimed in claim 1 or 2, wherein a value of from 200 to 700 mbar, preferably from 300 to 500 mbar, is specified as the pressure difference between the first and second vacuum value, and the second vacuum value is not more than 900 mbar.

4. The method as claimed in any of claims 1 to 3,

wherein the first vacuum value and/or the second vacuum value are varied from cycle to cycle.

5. The method as claimed in claim 3 or 4, wherein the pressure difference is varied from cycle to cycle.

6. The method as claimed in any of claims 1 to 5, wherein a maximum number of cycles and/or a maximum duration of the reaction is established in advance for the reaction granulation, the reaction is stopped after one of the two maxima is reached.

7. The method as claimed in claim 6, wherein a number of cycles of from 2 to 100 is established.

8. The method as claimed in either of claims 6 and 7, wherein a cycle lasts for from 30 to 240 sec.

9. The method as claimed in either of claims 6 and 7, wherein a duration of the reaction of from 1 to 40 min, in particular from 1 to 15 min, is established for the reaction granulation.

10. The method as claimed in any of claims 1 to 9, wherein the reaction granulation is carried out at a temperature of from 20 to 80°C, preferably from 40 to 60°C.

11. The method as claimed in any of claims 1 to 10, wherein a granulating liquid, which is introduced, in particular aspirated, into the container before or during the first evacuation step, is added to at least one of the reactive effervescent constituents or the mixture of the reactive effervescent constituents.

12. The method as claimed in any of claims 1 to 11,

wherein at least one reactive effervescent constituent is present as a hydrate.

13. The method as claimed in any of claims 1 to 12, wherein edible organic acids and/or salts thereof are used as acidic effervescent components, and carbonates and/or bicarbonates and/or magnesium oxide are used as alkaline effervescent components.

14. The method as claimed in any of claims 1 to 13, wherein, after the drying step, the effervescent granules are mixed with at least one pharmaceutical active substance and optionally excipients, neutral substances, sweeteners and/or flavors.

15. The method as claimed in claim 14, wherein the effervescent granules are mixed with at least one active substance from the group consisting of analgesics, antipyretics, antihistamines, antiallergic agents, antibiotics, antidiabetic agents, oncolytic agents, expectorants, electrolytes, laxatives, vitamins, phytopharmaceuticals, cardiovascular agents, antidiarrhoeal agents, diuretics and agents which promote blood flow.

16. The method as claimed in any of claims 1 to 15, wherein carbon dioxide is passed in during the reaction cycles.

17. The method as claimed in any of claims 1 to 16, wherein, after drying is complete, carbon dioxide is aspirated into the container and the effervescent granules are treated with carbon dioxide, preferably with stirring.

18. A method for stabilizing effervescent particles containing residual moisture, wherein the effervescent particles are treated with carbon dioxide in the course of their production or thereafter.

19. The method as claimed in claim 18, wherein the treatment of the effervescent particles is effected in a closed container in a carbon dioxide-enriched atmosphere, preferably with stirring.

20. An effervescent particle, which is present in a form enriched with gaseous carbon dioxide.

21. The effervescent particle as claimed in claim 20, which has a residual moisture content of from 0.01 to 1% by weight, in particular from 0.1 to 0.8% by weight and is preferably present in the form of effervescent granules or effervescent powders.

22. The effervescent particle as claimed in either of claims 20 and 21, obtainable in a method as claimed in any of claims 16 to 19.